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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,145	02/27/2002	Yutaka Ozawa	111773	6602

25944 7590 10/19/2004

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EXAMINER

SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,145

Applicant(s)

OZAWA, YUTAKA

Examiner

Leonid Shapiro

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04-01-04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 7, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blouin et al. (US Patent No. 6,,075,510) in view of Rader (US Patent No. 5,867, 140).

As to claim 1, Blouin et al. teaches a method of driving a plurality of display elements arranged in a matrix (See Fig. 1, items 1-3 and Col a-Col c), and constituting a region to make each display element display in the region (See Fig. 1, items Lines 1-3 and Col a-Col c, Col. 3, Lines 16-45), a gray level that the display element should display through at least one frame period of plurality of frame periods (Col. 3, Lines 16-26), by using a plurality of scanning lines for supplying a scanning signal that selects the display element (See Fig. 1, Lines 1-3) and a plurality of data lines for supplying a data signal that specifies the gray level (See Fig. 1, items and Col a-Col c, Col. 3, Lines 16-45), the method comprising: a second supplying step of supplying the scanning signal to both the certain scanning lines (See Figs. 3-4, Lines 1-2 in the reference) and scanning lines other than certain scanning lines of the plurality of scanning lines (See Figs. 3-4, Line 3 in the reference), the other scanning lines corresponding to display elements included in the other part of the region for not displaying the gray level other than certain part of the region (See Figs. 3-4, items T1-T3, Col. 4, Lines 16-60).

Blouin et al. does not show a first supplying step of supplying the scanning signals to certain scanning lines of the plurality of scanning lines, the certain scanning lines corresponding to display elements included in a certain part of the region for displaying gray level.

Rader teaches step of supplying the scanning signals to certain scanning lines of the plurality of scanning lines, the certain scanning lines corresponding to display elements included in a certain part of the region for displaying gray level (See Fig. 3, item 305, Col.2, Lines 22-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Rader into the Blouin et al. method in order to conserve power in first operating mode (See Abstract in the Rader reference).

As to claim 10, Blouin et al. teaches a electronic apparatus in which, to display a gray level to be displayed through at least one frame period of a plurality of frame periods specified by the image data (See Fig. 1, items Lines 1-3 and Col a-Col c, Col. 3, Lines 16-45), a plurality of scanning lines for supplying a scanning signals that selects the display elements arranged in a matrix (See Fig. 1, Lines 1-3) and a plurality of data lines for supplying a data signal that displayed the gray level (See Fig. 1, items and Col a-Col c, Col. 3, Lines 16-45), the scanning signals selecting the plurality of display elements items (See Fig. 1, Lines 1-3) and the data signals specifying gray levels to be displayed by the plurality of the display elements (See Fig. 1, items and Col a-Col c, Col. 3, Lines 16-45), the electronic apparatus comprising:

an input circuit that inputs information to specify the image data

(See Fig. 1, item 31, Col. 3, Lines 13-15);

a production circuit that produces the image data according to
information inputted from the input circuit (See Fig. 1, items 22);

a display circuit that displays the image data produced by the
production circuit, supplying the scanning signals to both of the certain scanning lines
(See Figs. 3-4, Lines 1-2) and the other than scanning lines of the plurality of scanning
lines, excluding the certain scanning lines, (See Figs. 3-4, Line 3), the other scanning
lines corresponding to display elements included in the other part of the region, excluding
certain part of the region, to make gray level undisplayed (See Figs. 3-4, items T1-T3,
Col. 4, Lines 16-60).

Blouin et al. does not show the display circuit supplying the scanning signals to
certain scanning lines of the plurality of scanning lines, the certain scanning lines
corresponding to display elements included in a certain part of the region for displaying
gray level.

Rader teaches the display circuit supplying the scanning signals to certain
scanning lines of the plurality of scanning lines, the certain scanning lines
corresponding to display elements included in a certain part of the region for displaying
gray level (See Fig. 3, item 305, Col.2, Lines 22-30).

It would have been obvious to one of ordinary skill in the art at the time of the
invention to incorporate teaching of Rader into the Blouin et al. system in order to
conserve power in first operating mode (See Abstract in the Rader reference).

As to claims 2-3, 7, Blouin et al. teaches the second supplying step (See Figs. 3-4, items T1-T3, Col. 4, Lines 16-60) and Rader teaches the first supplying step (See Fig. 3, item 305, Col.2, Lines 22-30) is performed in each or at least once in each of the frame periods.

2. Claims 4-6, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blouin et al. and Rader as applied to claims 3 and 7 above, and further in view of Wani et al. (US Patent No. 6,236,380 B1).

As to claim 4, Blouin et al. and Rader do not show each of the frame periods has a plurality of subfield periods each used for performance of one of the first and second supplying steps.

Wani et al. teaches each of the frames periods has a plurality of subfield periods each used for performance of one of the first and second supplying steps (See Fig. 2, items SCN1-SCN500, Col. 2, Lines 10-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Wani et al. into Rader and the Blouin et al. system in order to include a whole scanning and a partial scanning subfield (See Col. 2, Lines 9-10 in the Wani et al. reference).

As to claims 5-6, Blouin et al. and Rader do not show the second supplying step (second supplying step is equivalent to full scanning) is performed in one subfield of the plurality of subfields included in the plurality of frame periods, and the first supplying

step (first supplying step is equivalent to partial scanning) is performed in subfield other the one subfield.

Wani et al. teaches the second supplying step (second supplying step is equivalent to full scanning) is performed in one subfield of the plurality of subfields included in the plurality of frame periods, and the first supplying step (first supplying step is equivalent to partial scanning) is performed in subfield other the one subfield (See Figs. 1-2, Col. 3, Lines 27-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Wani et al. into Rader and the Blouin et al. system in order to include a whole scanning and a partial scanning subfield (See Col. 2, Lines 9-10 in the Wani et al. reference).

As to claim 8, Blouin et al. and Rader do not show a period of second supplying step is longer than period of the first supplying step.

Wani et al. teaches a period of second supplying step (second supplying step is equivalent to full scanning) is longer than period of the first supplying step (first supplying step is equivalent to partial scanning) (See Figs. 1-2, Col. 3, Lines 34-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Wani et al. into Rader and the Blouin et al. system in order to include a whole scanning and a partial scanning subfield (See Col. 2, Lines 9-10 in the Wani et al. reference).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blouin et al., Wani et al. and Rader as applied to claim 1 above, and further in view of Burgan et al. (US Patent No. 5, 805,121).

Blouin et al., Wani et al. and Rader do not show a step of applying the data signal making the display element undriven to the data line corresponding thereto when supplying the scanning signals to the other scanning lines.

Burgan et al. teaches a step of applying the data signal making the display element undriven to the data line corresponding thereto when supplying the scanning signals to the other scanning lines (See Fig. 4, BP2-FP3, Col. 4, Lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the step as shown by Burgan et al. in Blouin et al., Wani et al. and Rader apparatus in order to apply an improved and lower power technique for establishing an off or standby mode for pixels in an LCD (See Col. 1, Lines 34-40 in the Burgan et al. reference).

Response to Amendment

4. Applicant's arguments filed on 07-01-04 with respect to claim 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

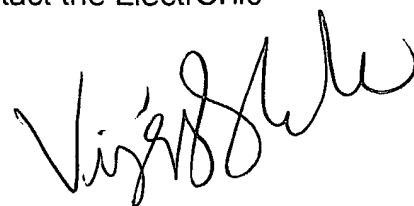
The Taniguchi (US Patent No. 4,824,212) reference discloses LCD device having separate driving circuits for display and non-display regions.

The Tsuboyama et al. (EP 0 355 693 A2) reference discloses circuit for reducing flickering in a non-display region.

Telephone inquire Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ls 09-23-04

VIJAY SHANKAR
PRIMARY EXAMINER